

Patent application of
Larry E. Davis
For

Page 1 of 10

Title: LOCKING LEVELING SUPPORT LEGS FOR WHEELBARROW

CROSS-REFERENCE TO RELATED APPLICATIONS; This application claims the benefit of PPA Ser. Nr. 60/487,799, filed 2003 07/17 by the present inventor.

FEDERALLY SPONSORED RESEARCH Not Applicable

SEQUENCE LISTING OR PROGRAM Not Applicable

BACKGROUND OF INVENTION --FIELD INVENTION

This invention relates to a device and means for leveling and stabilizing a resting wheelbarrow.

BACKGROUND OF INVENTION

A wheelbarrow by nature of design is unstable when resting, unless parked on a level terrain and is easy tipped over. Such instability is dangerous and wasteful sometimes spilling cargo such as cement.

DESCRIPTION OF PRIOR ART:

U. S patent No. 5,026,079 to Donze et al, discloses a balanced multi-wheel wheelbarrow.

Multi - wheels on wheelbarrows are substantially disadvantaged in the work place since they cannot maneuver through tight places and narrow paths or along narrow walkways. The present invention has the advantages of the normal singular wheel wheelbarrow while in motion but can set resting level and stable on a lateral unlevel surfaces also,

The present invention will provide leveling support whereas multi-wheel support does not.

Patent Application of Larry E, Davis for "Locking Leveling Support Legs For Wheelbarrow"

Page 2 of 10

In respect to the present invention, which substantially departs from prior art, and in doing so provides leveling support stability, while resting, yet transports cargo as a single wheel wheelbarrow.

Therefore, it can be appreciated there is a need for a self leveling stabilizing system for a resting wheelbarrow sitting on a lateral unlevel surfaces. The present invention fulfills this need.

In view of the forgoing disadvantages in the known types of wheelbarrow stabilization arts, the present invention does not decrease the efficiency of a regular triangular supported wheelbarrow but only enhances its efficiency in that during usage it is held level by user, and when not in use it is supported level by the present invention.

SUMMERY OF INVENTION

To attain resting stability, the fixed non-leveling rear legs depending downwardly from a wheelbarrow tray position-able on the ground, are replaced with a self-leveling, locking, leg support means. Such means comprise a cradle leg member, having left and right feet portions. The cradle is centrally and swivel-ably hung with a thru-axle attached cradled perpendicular to undercarriage of wheelbarrow onto a yoke member having a vertical slot accepting thru-axle. Further portions of the cradle leg support member, comprise an upward oriented fan like part-circle teeth portion. Also a stationary locking pin, mesh-able with the teeth portion. As user releases control of wheelbarrow, sequentially the cradle feet will touch ground, swiveling cradle on its axle according to slope of ground. As wheelbarrow continues down, resting, the cradle yoke support member will slide down further, allowing the locking pin to mesh, with the indexing teeth. Such locking, of the stationary pin into the circular movable teeth, will stabilize the wheelbarrow at the level in which user released it.

Patent Application of Larry E. Davis For "Locking Leveling Support Legs For Wheelbarrow"

Page 3 Of 10

OBJECTS AND ADVANTAGES

The main object and advantage of this present invention is a means for allowing a wheelbarrow to rest stable and level on laterally sloped or otherwise obstructed ground.

It is common that areas where wheelbarrows are used are unlevel and sometimes cluttered with debris, the present invention will laterally level a wheelbarrow while resting without hindering its maneuverability while in use.

Let it be understood that the present invention can be an add-on improvement to a wheelbarrow thus replacing the fixed rear leg support thereon.

Further object of this invention is that it is not limited to the wheelbarrow but can be used on other implements needing leveling support.

As such, those skilled in the art will appreciate the concept, upon which this disclosure is based, and can readily be utilized as a bases for the design of other structures, methods and systems for carrying out the purposes of the invention. It is important, therefore, that the claims be regarded as including such equivalent constructions insofar as they do not depart from the spirit and scope of the present invention.

It is therefore an object of the present invention to provide a means for leveling and stabilizing a resting wheelbarrow preventing spillage and tip-over.

Patent Application of Larry E. Davis For a "Locking Leveling Support Legs for Wheelbarrow"

Page 4 05 10

DRAWINGS--FIGURES:

Fig. 1 Viewing the rear undercarriage of a wheelbarrow, resting on a Leveling-Locking-supporting Leg means showing a cradle leg member having left and right feet portions and a toothed locking portion, attached thereto a yoke member with an axle running through a vertical elongated slot. Further shown a fixed locking pin in the yoke member with yoke member attached to undercarriage of wheelbarrow.

Fig. 2 Viewing the left side of wheelbarrow resting on a Leveling-Locking-Supporting Leg means, showing the left side of a cradle leg member with a left foot portion and a toothed locking portion, attached thereto a yoke member with an axle running through a vertical elongated slot. Further shown is a fixed locking pin in the yoke member and yoke member attached to undercarriage of wheelbarrow.

DRAWINGS-- Reference Numerals

12 locking pin	17 cradle Leg member
13 toothed locking portion	18A Left foot
14 vertical elongated slot	18B Right foot
15 Axle	
16 Yoke	

Patent Application of Larry E. Davis For a "Locking Leveling Support Legs For Wheelbarrow"

Page 5 of 10

DRAWINGS OF PREFERRED EMBODIMENTS

Fig. 1 Viewing rear undercarriage of wheelbarrow, with a Leveling-Locking-Support-Leg adaption depending down from wheelbarrow undercarriage consisting, a cradle leg member 17 with a locking teeth portion 13 and with a left foot portion 18A and a right foot portion 18B. The leg member 17 hung in a vertical elongated slot 14 in a yoke member 16 with an axle member 15. Yoke member 16 having a fixed locking pin portion 12. Yoke member 16 attachable onto undercarriage of wheelbarrow.

Fig. 2 Viewing left side of wheelbarrow, with a Leveling-Locking-Support-Leg adaption depending down from wheelbarrow undercarriage consisting, a cradle leg member 17 with a locking tooth portion 13 and with a left foot portion 18A. The leg member 17 hung in a vertical elongated slot 14 in a yoke member 16 with an axle member 15. Yoke member 16 attachable onto undercarriage of wheelbarrow.

Operation of Fig. I and Fig. 2:

As wheelbarrow is sequentially lowered resting, feet portions 18A and 18B of cradle leg member 17 will touch ground and swivel it to the slope of ground. Continued lowering of wheelbarrow will cause vertical elongated slot 14 in yoke 16 to slide down axle 15 in cradle leg member 17 whereas locking pin 12 will contact and mesh with locking tooth portion 13 of cradle leg member 17 whereby wheelbarrow will be held support at level manually released.

Patent Application of Larry E. Davis For "Locking Leveling Support Legs For Wheelbarrow"

Page 6 Of 10

CONCLUSIONS AND RAMIFICATIONS

The forgoing drawings and wording demonstrate, this wheelbarrow leveling and stabilizing adaption will support a wheelbarrow laterally level while resting on uneven or sloping ground support. Such supporting adaptions as the present invention will not impede normal maneuverability nor efficiency of wheelbarrow. This supporting, leveling, and stabilizing is carried out;

- 1- by replacing the conventional fixed support legs underneath wheelbarrow with;
- 2- a leveling support means consisting a lateral cradle leg member with right and left feet-leg portions and,
- 3- said cradle support member centrally hung underneath wheelbarrow in a vertically slotted stationary yoke member whereas cradle having seesaw and vertical movement capabilities .
- 4- Further said cradle support member having an upwardly oriented fan-like outer toothed gear portion meshable locking with fixed locking pin at undercarriage support.
- 5- let it be understood that this locking of the cradle member against the locking pin member could be achieved as well by other frictional means.
- 6- let it be understood that the indexing locking mechanism could be performed by a manually manipulated means.
- 7-Let it be further understood that such means and types of fasteners, bends, anchoring materials and such as presented and demonstrated herein is not the invention but,
 - A- The present invention is a leveling leg support means providing leveling support for an otherwise unstable load mass consisting,
 - 1-A a fixed locking member and,
 - 2-A a terrain seeking un-fixed cradle leg-feet support member with,
 - 3-A a means for locking the fixed locking member and un-fixed cradle leg support member together providing leveling support for unstable implements such as a wheelbarrow.

Further Conclusions and Ramifications

- B- Let it be further understood that this present invention and its embodiments should not be limited to size, number of braces, length of working members, number of anchor points, type and number of hinge point, welds, and materials used, but;
- C- This invention relates to an improved leg support means providing leveling support for a resting wheelbarrow resting on un-level ground whereas, when manually lowering a wheelbarrow resting:
 - (1) a center pivoting cradled leg member having left and right leg-feet portion depending down and skewed laterally outward from under left to right of wheelbarrow undercarriage is touchable to ground and,
 - (2) The cradled legs are seesaw supported with an axle passing through its center between left and right leg-feet portions at right angle to legs and,
 - (3) The axle is supported in a vertical elongated slot in a yoke member affixed thereto center undercarriage of wheelbarrow.
 - (4) The vertical elongated slot provides for up and down and seesaw action of leg support.
 - (5) Lowering wheelbarrow further will settle it down against the cradle legs which have graduated swivel-ably to slope of ground whereas,
 - (6) a locking pin at center of undercarriage support will mesh with a toothed locking portion of cradle leg whereby.
 - (7) wheelbarrow is now resting supported by the cradle legs at level released.

SUMMERY OF EMBODIMENTS WORKING

Thus it has been demonstrated that with the above invention a wheelbarrow will set level on otherwise un-level supporting terrain, whereas self- leveling support legs will swivel to slope of ground. The self-leveling support is transmitted from the self-leveling legs therethrough locking members thereon undercarriage of resting wheelbarrow. Such leveling and locking support will enable a wheelbarrow to set resting at level manually released.